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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,191	07/23/2003	Shin-Tson Wu	UCF-364	1256
7590 08/24/2005				
Law Offices of Brian S. Steinberger 101 Brevard Avenue Cocoa, FL 32922				
EXAMINER				
NGUYEN, THANH NHAN P				
ART UNIT		PAPER NUMBER		
2871				

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 10/625,191	Applicant(s) WU ET AL.	
	Examiner (Nancy) Thanh-Nhan P. Nguyen	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-22 is/are allowed.
- 6) ☒ Claim(s) 1, 4-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Election/Restriction dated 5/23/2005.

Upon the examination process, the restriction/election has been dropped since examiner made mistake by putting both invention I (Transflective cholesteric LCD device), and invention II (Method of forming a full color Transflective cholesteric LCD) in the same class 349 and subclass 114. The invention II should have been classified in class 349, subclass 187.

2. Claims 1-22 are pending for the examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Molsen U.S. Patent Application Publication No. 2002/0018279.

Referring to claim 1, Molsen discloses a transflective cholesteric liquid crystal display, comprising: a top substrate (17) coated with an electrode; a bottom substrate (18) coated with an electrode, wherein the electrodes have been omitted for clarity [par. 0012]; a cholesteric liquid crystal sandwiched between a top substrate and a bottom substrate (since the twisted nematic liquid crystal is a cholesteric liquid crystal with large

pitch); a bottom substrate having a transparent transmissive region and a non-transparent region; and a slant reflector (13) means for reflecting backlight (9), [fig. 7].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Molsen in view of Sekiguchi U.S. Patent Application Publication No. 2002/0145688.

Referring to claim 4, even though Molsen lacks disclosure of the transfective cholesteric liquid crystal display further comprising a color filter on one side of the top substrate, it was well known to have a color filter on the top substrate (or bottom substrate) in the transfective to achieve color transfective liquid crystal display, as evidenced by Sekiguchi, [fig. 2 – element 9; and abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a color filter on one side of the top substrate in the transfective for the benefit of achieving color transfective liquid crystal display.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Molsen in view of Schwalb et al U.S. Patent No. 6,057,008.

Referring to claim 5, it was well known that in order to have normal behavior characteristic, the birefringence of the cholesteric liquid crystal should be in the range of 0.08 – 0.12, as evidenced by Schwalb, [col. 1, lines 38-41]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the cholesteric liquid crystal has a birefringence larger than 0.08 for the benefit of having normal behavior characteristic.

Claims 6-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Molsen in view of Yamaguchi U.S. Patent Application Publication No. 2001/0017674.

Referring to claims 6-7, Molsen lacks disclosure of the non-transparent region on the bottom substrate is coated with an absorption layer to absorb light, where the absorption layer can be a material that can absorb visible light.

The language regarding the use as an absorption layer to absorb light is an intended use limitation, and therefore does not patentably distinguish the invention, as evidenced by Yamaguchi, [fig. 2 – element (36) as absorption layer; element (38) as reflective layer]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an absorption layer to absorb light in the non-transparent region (or reflective region) for the benefit of being suitable for the intended purpose.

Referring to claim 10, Molsen discloses wherein the reflective and transmissive display modes have the same cell gap so that their response time is the same, [fig. 7].

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Molsen in view of Yamaguchi, and further in view of Yamazaki et al U.s. Patent Application Publication No. 2004/0257357.

Referring to claim 8, even though Molsen lacks disclosure of wherein the absorption layer is selected from the group consisting of black dye and black paint, it was conventional at the time to use black dye as absorption layer, and therefore had the benefits associated with being conventional, such as the benefit of being available and the benefit of being suitable for the intended purpose, as evidenced by Yamazaki et al, [par. 0122]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use black dye as absorption layer for the benefit of being available and the benefit of being suitable for the intended purpose.

Allowable Subject Matter

Claims 2-3 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 11-22 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-3 and 9, 11-17: None of prior art taught or disclosed a transfective cholesteric liquid crystal display comprising a slant reflector located above the cholesteric liquid crystal layer in transmissive region for reflecting backlight into the

reflective region; the ambient light and back light both pass through the color filter twice so that they have similar color saturation.

Claims 12-22: None of prior art taught or disclosed a transfective cholesteric liquid crystal display comprising the means for selecting high birefringence liquid crystal materials in the liquid crystal display to achieve black and white display.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Molsen U.S. Patent Application Publication No. 2002/0018279.

Sekiguchi U.S. Patent Application Publication No. 2002/0145688.

Schwalb et al U.S. Patent No. 6,057,008.

Yamaguchi U.S. Patent Application Publication No. 2001/0017674.

Yamazaki et al U.s. Patent Application Publication No. 2004/0257357.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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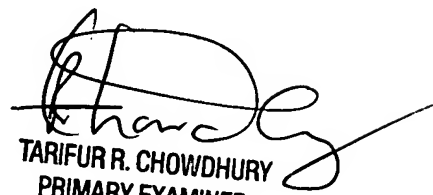
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(Nancy) Thanh-Nhan P Nguyen

Examiner

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-- August 19, 2005 -- TN


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER